WHAT IS CLAIMED IS:

1. A method of inhibiting the growth of a cancer cell that overexpresses a Wnt protein, the method comprising contacting the cell with an agent that inhibits binding of the Wnt protein to a Frizzled receptor.

2. The method of claim 1, wherein the agent is an antibody.

3. The method of claim 2, wherein the antibody specifically binds to the Wnt protein.

4. The method of claim 3, wherein the Wnt protein is Wnt-1.

5. The method of claim 3, wherein the Wnt protein is Wnt-2.

6. The method of claim 2, wherein the antibody specifically binds a Frizzled receptor.

7. The method of claim 6, wherein the Frizzled receptor is a Frizzled1, Frizzled2, Frizzled3, Frizzled4, Frizzled5, Frizzled6, Frizzled7, Frizzled8, Frizzled9, and Frizzled10 receptor.

8. The method of claim 2, wherein the antibody is a monoclonal antibody.

9. The method of claim 8, wherein the antibody is recombinantly produced.

10. The method of claim 8, wherein the antibody is a humanized antibody.

11. The method of claim 8, wherein the antibody is a single chain Fv fragment (scFv).

12. The method of claim 1, wherein the cancer cell is in a patient and the step of contacting is carried out by administering the agent to the patient.

13. The method of claim 12, wherein the agent is an antibody.

14. The method of claim 12, further comprising administering to the patient a second therapeutic agent.

15. The method of claim 14, wherein the second therapeutic agent is a chemotherapeutic agent.

16. The method of claim 14, wherein the second therapeutic agent is radiation therapy.

17. The method of claim 1, wherein the cancer cell is a breast cancer cell, colorectal cancer cell, a lung cancer cell, a sarcoma cell, a mesothelioma cell, a cervical cancer cell, an ovary cancer cell, a prostate cancer cell, a pancreatic cancer cell, a gastric cancer cell, an esophageal cancer cell, a head and neck cancer cell, a hepatocellular carcinoma cell, a melanoma cell, a glioma cell, a glioblastoma cell, a leukemia cell, or a lymphoma cell.

18. An anti-Wnt monoclonal antibody that specifically binds to a peptide of SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:9.

19. The monoclonal antibody of claim 18, wherein the antibody comprises a V_H or V_L as shown in Figure 7.

20. The monoclonal antibody of claim 18, wherein the V_H comprises a CDR of a V_H chain shown in Figure 7.

21. The monoclonal antibody of claim 20, wherein the V_H comprises all three of the CDRs of a V_H chain shown in Figure 7.

22. The monoclonal antibody of claim 18, wherein the V_L comprises a CDR of a V_L region shown in Figure 7.

23. The monoclonal antibody of claim 22, wherein the V_L comprises all three of the CDRs of a V_L region shown in Figure 7.

24. A pharmaceutical composition comprising a pharmaceutically acceptable excipient and a monoclonal antibody that specifically binds Wnt1 or Wnt2.

25 . The pharmaceutical composition of claim 24, wherein the antibody is further conjugated to an effector component.

26. The pharmaceutical composition of claim 24, wherein the effector component is a fluorescent label.

27. The pharmaceutical composition of claim 24, wherein the effector component is a radioisotope or a cytotoxic chemical.

28. A method of screening for an agent that inhibits the proliferation of a cancer cell, the method comprising contacting the agent with a Dvl protein, determining Dvl protein activity or expression, and identifying a compound that inhibits Dvl protein or activity, thereby identifying an agent that inhibits the proliferation of a cancer cell.

29. The method of claim 28, further comprising contacting an identified compound with a cancer cell, and selecting the compound that inhibits proliferation of the cancer cell.

30. The method of claim 28, wherein the cancer cell is a lung cancer cell.

31. A method of inhibiting the growth of a cancer cell that overexpresses a Dvl protein, the method comprising contacting the cell with an agent that inhibits Dvl expression or activity.

32. The method of claim 31, wherein the cancer cell is a lung cancer cell.

33. The method of claim 31, wherein the agent is a small molecule.

34. The method of claim 31, wherein the agent is a siRNA.

35. A method of inhibiting the growth of a cancer cell that overexpresses a wnt or Frizzled protein, the method comprising contacting the cell with an agent that binds to the intracellular domain of a Frizzled receptor, thereby inhibiting the binding of the Frizzled receptor to an intracellular protein.